

CLAIMS

What is claimed is:

1. A recording medium having sectors where data is recorded, wherein each sector has a data identification area, in which information identifying the type of data recorded in the sector is recorded, and the data identification area indicates whether the data recorded in the sector is linking data.

2. The recording medium of claim 1, wherein if the linking data is recorded in the sector, the data in the sector is replaced with dummy data and the dummy data is reproduced.

3. The recording medium of claim 2, wherein 0 kilobytes (KB) are assigned to a dummy data area of the sector by linking.

4. The recording medium of claim 2, wherein 2KB are assigned to a dummy data area of the sector by linking.

5. The recording medium of claim 2, wherein 32KB are assigned to a dummy data area of the sector by linking.

6. A method of linking data, the method comprising :
dividing an error correction code block having a predetermined size into a plurality of sectors and checking data type identification information which indicates whether data in each sector is linking data; and
replacing main data of a sector with predetermined data according to the result of checking the data type identification information.

7. The method of claim 6, wherein if the result of checking the data type identification information indicates that the linking data is recorded in the sector, the main data in the sector is replaced with dummy data .

8. An apparatus linking data in a process recording and/or reproducing optical data, the apparatus comprising:

a checking unit checking and outputting the type of data if no error occurs in an error correction code block having a plurality of sectors, each sector having data type identification information which indicates whether data recorded in the sector is linking data; and

a replacing unit replacing main data of a sector with predetermined data according to the data type output from the checking unit.

9. The apparatus of claim 8, wherein if the linking data is recorded in the sector, the replacing unit replaces the main data of the sector with dummy data.

10. The recording medium according to claim 1, wherein said data type identification information field comprises a sector information field and a sector number field.

11. The recording medium according to claim 10, wherein said sector information field comprises a sector format type field, a tracking method field, a reflectance field, a reserve field, an area type field, a data type field and a number-of-layers field.

12. The recording medium according to claim 11, wherein the sector format type information indicates a constant linear velocity (CLV) or zone constant linear velocity (ZCLV) as follows:

- a first type of bit indicates CLV format type; and
- a second type of bit indicates ZCLV format type, specified for Rewritable discs.

13. The recording medium according to claim 11, wherein the tracking method information indicates pit tracking or groove tracking as follows:

- a first type of bit indicates pit tracking; and
- a second type of bit indicates groove tracking, specified for Rewritable discs.

14. The recording medium according to claim 11, wherein the reflectance information indicates whether or not reflectance exceeds 40% as follows:

- a first type of bit indicates reflectance is greater than 40%; and
- a second type of bit indicates reflectance is less than or equal to 40%.

15. The recording medium according to claim 11, wherein the reserve information indicates a reserve bit.

16 The recording medium according to claim 11, wherein the area type information indicates a data area, a lead-in area, a lead-out area, or a middle area for a read-only disc as follows:

- 00b indicates data area;
- 01b indicates lead-in area;
- 10b indicates lead-out area; and
- 11b indicates a middle area of a read-only disc.

17. The recording medium according to claim 11, wherein the data type information indicates read-only area, or the linking data as follows:

- a first type of bit indicates a read-only area; and
- a second type of bit indicates a linking area.

18. The recording medium according to claim 11, wherein the layer number information indicates the number of layers in a single layer disc or a dual layer disc as follows:

- a first type of bit indicates layer 0 of a dual layer disc or a single layer disc; and
- a second type of bit indicates layer 1 of a dual layer disc.

19. The method according to claim 6, wherein if the data type identification information in sector information is a "1b," this indicates that the current sector is a linking loss area, and main data recorded in the current sector is replaced with "00h" regardless of the data to be reproduced.

20. An apparatus linking data in a process that records and/or reproduces optical data comprising:

- a data converting unit converting an analog signal into non-return-to-zero inversion (NRZI)-type digital data;
- a non-return-to zero converting unit converting said (NRZI)-type digital data into NRZ-type data;
- a sync detecting unit performing detection, protection, and insertion of various synchronization signals contained in the NRZ data;
- a demodulating unit demodulating modulated 16-channel bits of the NRZ-type data into 8 bits;

an identification error detection checking unit indicating whether an error exists in the data identification area;

a data type checking unit checking data type information in the data identification area;
and

a data replacing unit replacing data.

21. The apparatus according to claim 20, wherein if the identification error detection checking unit determines that there is no error in the data identification area, the data type checking unit checks data type information in the data identification area.

22. A recording unit linking data in a process recording optical data, the recording unit comprising:

a checking unit checking and outputting the type of data if no error occurs in an error correction code block having a plurality of sectors, each sector having data type identification information which indicates whether data recorded in the sector is linking data; and

a replacing unit replacing main data of a sector with predetermined data according to the data type output from the checking unit.

23. A method of linking data, the method comprising:

dividing an error correction code block having a predetermined size into a plurality of sectors;

checking whether data type identification information indicates that data in a current sector is linking data; and

allocating a current sector as a linking loss area if said data type identification information indicates that the data in the current sector is the linking data.